

Section WFP 2-15 – Welding Fabrication Procedure

Rev. 0, 8/16/04

Attachment 1, Weld Reinforcement and Alignment Tolerance Table

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WELD REINFORCEMENT TABLE
ASME Section III

Vessels, Pumps, and Valves - Subsections NB, NC, and ND

Thickness of Base Material	Maximum Reinforcement, in.
Up to 1 in.	$\frac{3}{32}$
Over 1 in. to 2 in.	$\frac{1}{8}$
Over 2 in. to 3 in.	$\frac{5}{32}$
Over 3 in. to 4 in.	$\frac{7}{32}$
Over 4 in. to 5 in.	$\frac{1}{4}$
Over 5 in.	$\frac{5}{16}$

Piping - Subsection NB, NC, ND

Thickness of Base Material	Maximum Reinforcement, in.	
	Column 1	Column 2
Up to $\frac{1}{8}$ in.	$\frac{3}{32}$	$\frac{3}{32}$
Over $\frac{1}{8}$ in. to $\frac{3}{16}$ in.	$\frac{1}{8}$	$\frac{3}{32}$
Over $\frac{3}{16}$ in. to $\frac{1}{2}$ in.	$\frac{5}{32}$	$\frac{1}{8}$
Over $\frac{1}{2}$ in. to 1 in.	$\frac{3}{16}$	$\frac{5}{32}$
Over 1 in. to 2 in.	$\frac{1}{4}$	$\frac{5}{32}$
Over 2 in.	The larger of $\frac{1}{8}$ x the width of the weld or $\frac{1}{4}$ in.	$\frac{5}{32}$

For double-welded butt joints, the limitations on the reinforcement given in Column 1 of the above table shall apply separately to both inside and outside surfaces of the joint. For single-welded butt joints, the reinforcement given in Column 2 shall apply to the inside surface and the reinforcement given in Column 1 shall apply to the outer surface. The reinforcement shall be determined from the higher of the abutting surfaces involved.

Subsections NE, NF, and WB

Thickness of Base Material	Maximum Reinforcement, in.
Up to 1 in.	$\frac{3}{32}$
Over 1 in. to 2 in.	$\frac{1}{8}$
Over 2 in. to 3 in.	$\frac{5}{32}$
Over 3 in. to 4 in.	$\frac{7}{32}$
Over 4 in. to 5 in.	$\frac{1}{4}$
Over 5 in.	$\frac{5}{16}$

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ALIGNMENT TOLERANCE TABLE
ASME Section III

Subsections NB, NC, ND, NE, and WB⁽¹⁾

Thickness of Base Material	Longitudinal Butt Weld	Circumferential Butt Weld
Up to ½ in.	¼ thickness	¼ thickness
Over ½ in. to ¾ in.	⅛ in.	¼ thickness
Over ¾ in. to 1 ½ in.	⅛ in.	⅜ in.
Over 1 ½ in. to 2 in.	⅛ in.	⅛ thickness
Over 2 in.	Lesser of ⅛ thickness or ⅜ in.	Lesser of ⅛ thickness or ¾ in. ⁽²⁾

⁽¹⁾ Subsection WB single welded joints may optionally meet requirements for Subsection WB inaccessible inside surfaces.

⁽²⁾ For Subsection WB: Lesser of ⅛ thickness or ⅛ in.

Subsection NF

Thickness of Base Material	Maximum Offset
Up to ¾ in.	¼ thickness
Over ¾ in. to 1 ½ in.	⅜ in.
Over 1 ½ in. to 2 in.	⅛ thickness
Over 2 in.	Lesser of ⅛ thickness or ¾ in.

Note: The thickness of the base material is the nominal thickness of the thinner section at the weld joint.

Subsection WB (Inaccessible Inside Surfaces)

Longitudinal Butt Weld	Circumferential Butt Weld	
	Concentric Centerline	Offset Centerline
⅜ in. max.	⅜ in. max. uniform mismatch	⅜ in. max. mismatch at any one point